5

or the like having outstanding dimensional stability. Such tapes are also capable of being punched to provide a punched computer tape. Larger sheets of the glass-plastic composite can be used as insulating material in electrical transformers and in similar applications. Sheets of this thin plastic composite also can be used in numerous applications where low moisture vapor transfer is needed, such as in food packaging.

While the invention has been described with reference to certain preferred embodiments thereof, it will be understood that various changes and modifications may be made in the laminate described without departing from the spirit of the invention as set forth in the following

claims.

What is claimed is:

1. A flexible glass-plastic laminate comprising a substantially vapor impermeable glass sheet substrate having a thickness of less than about 0.01 inch and a plastic layer bonded to at least one surface of said substrate, said plastic layer having a percent elongation of at least 20 and a thickness of from 0.0005 to 0.02 inch and being formed from a plastic selected from the group consisting of epoxy resins and polyurethane resins.

2. The laminate of claim 1 wherein said glass substrate has a thickness in the range of from about 0.0001 to 0.01 25

inch.

3. The laminate of claim 1 wherein said plastic layer is an epoxy resin cured with a flexible curing agent.

4. The laminate of claim 1 wherein said plastic layer is a polyurethane resin comprising the reaction product 30 of a polyoxypropylene adduct of trimethylolpropane, toluene diisocyanate, and polypropylene glycol.

5. The laminate of claim 1, wherein said plastic is an epoxy resin containing an effective amount of a poly-

sulfide flexibility modifier.

6. A flexible glass-plastic laminate comprising a substantially vapor impermeable glass sheet substrate having a thickness of from about 0.0001 to 0.01 inch and a plastic layer bonded to at least one surface of said substrate, said layer having a thickness of from about 0.005 to 0.02 inch and said layer comprising a mixture of 15 parts of a bisphenol-A epichlorohydrin condensation product having an equivalent weight of 485 and 5 parts of a second bisphenol-A epichlorohydrin condensation product

6

having an equivalent weight of 950, and 6 parts of a curing agent consisting of the polyamide of diethylene triamine and dilinoleic acid with an amine number of 210.

7. The laminate of claim 6 wherein said plastic layer further comprises an effective amount of a coupling agent selected from the group consisting of

(CH₃O)₃SiCH₂CH₂CH₂NHCH₂CH₂NH₂

(CH₃O)₃SiCH₂CH₂CH₂NH₃

and

$$(CH_3O)_3SiCH_2CH_2CH_2-OCH_2-C \\ \hline \\ O \\ CH_2$$

8. A flexible glass-plastic laminate comprising a substantially vapor impermeable glass sheet substrate having a thickness of from about 0.0001 to 0.01 inch and a plastic layer bonded to at least one surface of said substrate, said plastic layer having a thickness of from 0.0005 to 0.02 inch, said plastic layer comprising a polyurethane resin formed by reacting 822 parts of the polyoxypropylene adduct of trimethylolpropane having a molecular weight of 411 and a hydroxyl content of 12.4% with 844 parts of toluene diisocyanate, said toluene diisocyanate comprising 80% 2,4-isomer and 20% 2,6-isomer, and 420 parts of polypropylene glycol having a molecular weight of 420 and a hydroxyl content of 8.10%.

References Cited

UNITED STATES PATENTS

| 2,705,223 | 3/1955 | Renfrew et al 161—185 X |
|-----------|--------|-------------------------|
| 2,740,743 | 4/1956 | Pace 260—2.5 |
| 3,297,186 | | Wells 161—185 X |
| 3,299,169 | 1/1967 | Smith 161—185 X |

OTHER REFERENCES

Materials in Design Engineering, May 1961, vol. 53, No. 5, p. 17.

EARL M. BERGERT, *Primary Examiner*. HAROLD ANSHER, *Examiner*.